

## INTERNATIONAL SEARCH REPORT

International Application No

R2005/000014

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 F04B39/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|----------|---|-----------------------|
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 017, no. 447 (M-1464),<br>17 August 1993 (1993-08-17)<br>-& JP 05 099141 A (MATSUSHITA REFRIG CO LTD), 20 April 1993 (1993-04-20)<br>abstract; figures 1,2<br>----- | 1-7                   |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 163 (M-816),<br>19 April 1989 (1989-04-19)<br>-& JP 01 003275 A (MATSUSHITA REFRIG CO),<br>9 January 1989 (1989-01-09)<br>abstract; figures 1,2<br>-----   | 1-3,5,6               |
| X        | US 5 722 818 A (OHTA ET AL)<br>3 March 1998 (1998-03-03)<br>column 4, line 53 - column 5, line 14;<br>figure 6<br>-----   | 1-6,11                |
| -/-      |   |                       |

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Date of the actual completion of the International search

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|----------|---|-----------------------|
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 1995, no. 11,<br>26 December 1995 (1995-12-26)<br>-& JP 07 208334 A (MATSUSHITA REFRIG CO<br>LTD), 8 August 1995 (1995-08-08)<br>abstract; figures 1,4-7<br>----- | 1-7,11                |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 163 (M-816),<br>19 April 1989 (1989-04-19)<br>-& JP 01 003276 A (MATSUSHITA REFRIG CO),<br>9 January 1989 (1989-01-09)<br>abstract; figures 1-3<br>----- | 1-6                   |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 287 (M-844),<br>30 June 1989 (1989-06-30)<br>-& JP 01 080781 A (MATSUSHITA REFRIG CO),<br>27 March 1989 (1989-03-27)<br>abstract; figures 1-3<br>-----   | 1-5                   |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 257 (M-837),<br>14 June 1989 (1989-06-14)<br>-& JP 01 060784 A (MATSUSHITA REFRIG CO),<br>7 March 1989 (1989-03-07)<br>abstract; figures 1,2<br>-----    | 1,2                   |
| X        | US 2002/098093 A1 (TOMELL PHILLIP A ET AL)<br>25 July 2002 (2002-07-25)<br>figures 12,18a,18e<br>-----  | 1,8,9                 |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 013, no. 161 (M-815),<br>18 April 1989 (1989-04-18)<br>-& JP 64 000371 A (MATSUSHITA REFRIG CO),<br>5 January 1989 (1989-01-05)<br>abstract; figures 1-3<br>----- | 1,2                   |
| X        | PATENT ABSTRACTS OF JAPAN<br>vol. 012, no. 197 (M-706),<br>8 June 1988 (1988-06-08)<br>-& JP 63 005187 A (MATSUSHITA REFRIG CO),<br>11 January 1988 (1988-01-11)<br>abstract; figures 2,4<br>-----  | 1                     |
| A        | US 5 733 106 A (LEE ET AL)<br>31 March 1998 (1998-03-31)<br>-----   |                       |
| A        | US 5 950 307 A (LEE ET AL)<br>14 September 1999 (1999-09-14)<br>-----   |                       |
| A        | US 5 584 674 A (MO ET AL)<br>17 December 1996 (1996-12-17)<br>-----   |                       |

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

BR2005/000014

| Patent document cited in search report | Publication date | Patent family member(s) |  | Publication date |
|--|------------------|-------------------------|--|------------------|
| JP 05099141                            | A 20-04-1993     | NONE                    |  |                  |
| JP 01003275                            | A 09-01-1989     | JP 2624258 B2           |  | 25-06-1997       |
| US 5722818                             | A 03-03-1998     | JP 3301895 B2           |  | 15-07-2002       |
|  |                  | JP 9072280 A            |  | 18-03-1997       |
|  |                  | CN 1149671 A ,C         |  | 14-05-1997       |
| JP 07208334                            | A 08-08-1995     | NONE                    |  |                  |
| JP 01003276                            | A 09-01-1989     | NONE                    |  |                  |
| JP 01080781                            | A 27-03-1989     | NONE                    |  |                  |
| JP 01060784                            | A 07-03-1989     | NONE                    |  |                  |
| US 2002098093                          | A1 25-07-2002    | US 2003156955 A1        |  | 21-08-2003       |
|  |                  | US 2004223854 A1        |  | 11-11-2004       |
| JP 64000371                            | A 05-01-1989     | NONE                    |  |                  |
| JP 63005187                            | A 11-01-1988     | NONE                    |  |                  |
| US 5733106                             | A 31-03-1998     | KR 175891 B1            |  | 01-10-1999       |
|  |                  | BR 9603199 A            |  | 27-05-2003       |
|  |                  | CN 1142015 A ,C         |  | 05-02-1997       |
|  |                  | IT RM960535 A1          |  | 29-01-1998       |
|  |                  | JP 2895795 B2           |  | 24-05-1999       |
|  |                  | JP 9042151 A            |  | 10-02-1997       |
| US 5950307                             | A 14-09-1999     | KR 143142 B1            |  | 01-08-1998       |
|  |                  | BR 9600950 A            |  | 30-12-1997       |
|  |                  | CN 1137098 A ,C         |  | 04-12-1996       |
|  |                  | IT RM960151 A1          |  | 08-09-1997       |
|  |                  | JP 2944031 B2           |  | 30-08-1999       |
|  |                  | JP 8247032 A            |  | 24-09-1996       |
|  |                  | US 5762478 A            |  | 09-06-1998       |
| US 5584674                             | A 17-12-1996     | IT 1272216 B            |  | 16-06-1997       |
|  |                  | JP 6307339 A            |  | 01-11-1994       |
|  |                  | KR 141490 Y1            |  | 15-05-1999       |
|  |                  | KR 146151 Y1            |  | 15-06-1999       |